

Work Order ID 163583

Thursday, June 29, 2017 3:32:11 PM

163583

Page 1

Item ID: D5369-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Cable Guard

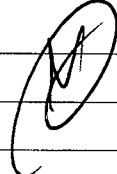
Start Date: 7/5/2017 Start Qty: 2.00

Cust Item ID:

Required Date: 7/17/2017 Req'd Qty: 2.00

Customer:

Reference:

Approvals: Process Plan:  Date: JUN 29 2017 Tooling: Date:

Run Start ***NR1***

QC: Date: SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D5369	A

100		0.00							DAS 44 9-89 17-07-11
100						3			
Bandsaw	Memo	0.17							
Jeaspa Bandsaw	CUT TO 82.750"								

110		0.08							DAS 44 9-89 17-07-11
110	HAAS CNC VERTICAL MACHINING #1					3			
HAAS 4	Memo	1.50							
HAAS CNC vertical machine #4	1-Mill as per folio FB443 & dwg D5369, FOLIO REV: <u>44</u> DWG REV: <u>4</u> 2-Deburr as required								DAS 14 9-89 17/07/13

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐				Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐				Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐				Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐											
		OTHER :																							

Work Order ID 163583

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Page 2

Item ID: D5369-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Cable Guard
Start Date: 7/5/2017 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 7/17/2017 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo	0.00 0.02				3	4		DAS 14 9-89 17/07/13
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo ENSURE D5369-1/-2 IS MACHINED TO LENGTH AS PER DWG.	0.00 0.04				3	4		DAS 45 9-89 17-13
140 *140* Packaging Packaging	Identify as per dwg & Stock Location: 52603 Memo	0.00 0.02				3	5	17-14	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐			
Design ☐	☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐			
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐			
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐			
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐			
Material ☐	☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐			
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐			
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐			
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐			
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐			
Past Expiry Date ☐	☐	Manufacturing Process ☐	OTHER : ☐						
Misidentified ☐	☐	Past Due ☐							

Work Order ID 163583

163583

Page 3

Thursday, June 29, 2017 3:32:11 PM

Item ID: D5369-1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Cable Guard

Start Date: 7/5/2017 Start Qty: 2.00 *2*

Cust Item ID:

Required Date: 7/17/2017 Req'd Qty: 2.00 *2*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

150

QC21- Final Inspection - Work Order Release

0.00

150

QC

Memo

0.20

Quality Control

 JUL 13 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Picklist Print

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Page 1

Work Order ID: 163583

163583

Parent Item: D5369-1

D5369-1

Parent Item Name: Cable Guard

Start Date: 7/5/2017

Required Date: 7/17/2017

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 15.12.09 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB1.750X1.00 OX96.00		Purchased		No		100	f	8.0000	6.52	13.04			
										DAS			
										44			
										9-89			
										**			17-07-11
*MUHMWB1 750X1 000X96 00													
UHMW 1.75x1.00x96.00 (Tolerance +/- .010)													

Location

Loc Qty

Loc Code

m

8

m134462

8

MUHMWB 1.00

137 443

3.45 sq/FT

Did not pull mat'l b

DQA: _____ Date: _____



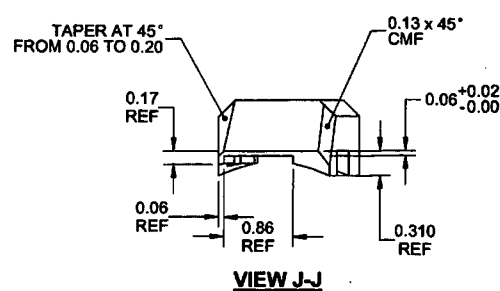
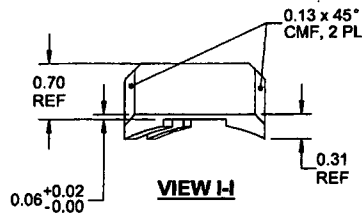
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

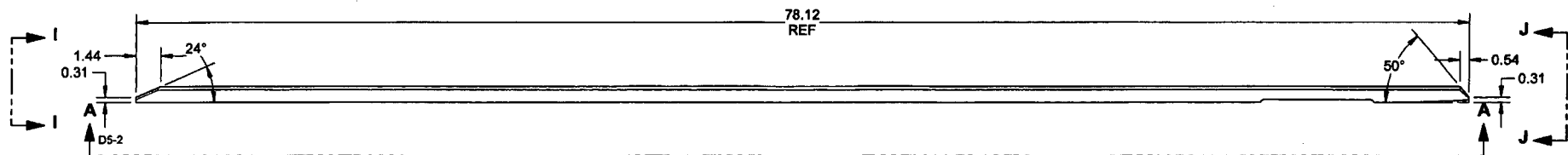
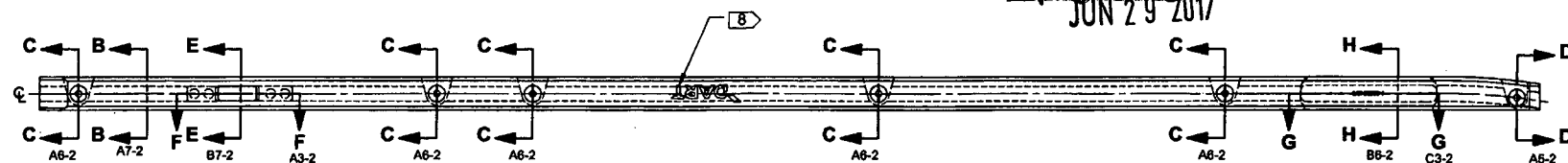
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand Approver QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :			
Misidentified	☐	Past Due	☐				



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 1635834
JUN 29 2017



D5369-1 CABLE GUARD

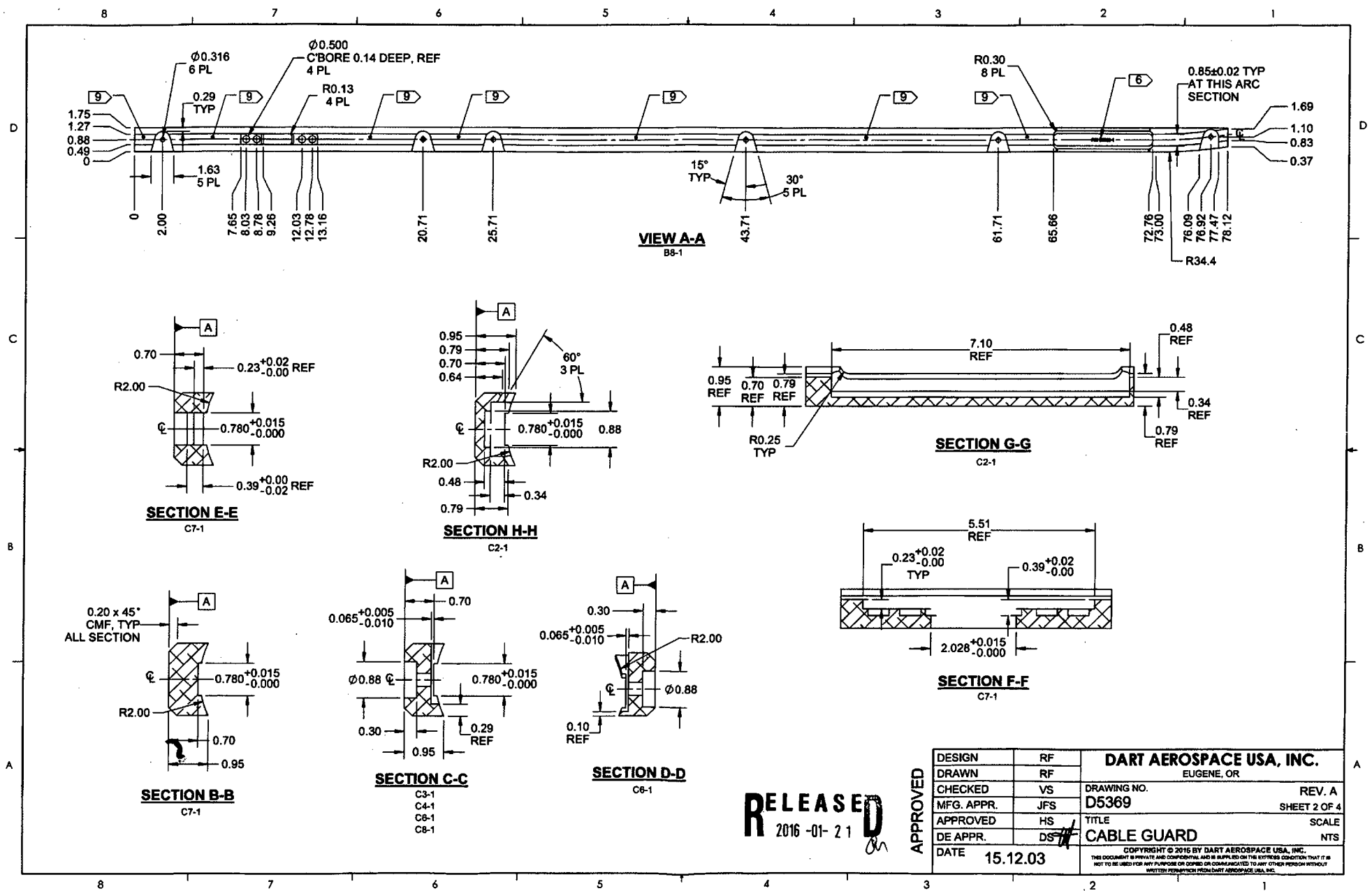
NOTES:

- 1) MATERIAL: UHMW BLACK TIVAR 1000 VIRGIN MATERIAL
REF DART SPEC MUHMB100
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.020 TO 0.040 MAX
- 6) IDENTIFICATION: ENGRAVE P/N ON LOWER SIDE TO MAX DEPTH OF 0.010 AND MIN RADIUS OF 0.010
- 7) WEIGHT: 3.17 lbs
- 8) ENGRAVE DART LOGO AS SHOWN ON UPPER SIDE TO MAX DEPTH OF 0.015 AND MIN RADIUS OF 0.125
- 9) MACHINE CONSTANT SECTION B-B UNLESS OTHERWISE NOTED
- 10) ALL HOLES DRILLED ON CENTERLINES
- 11) UNDEFINED FEATURES CONTROLLED BY CAD FILE D5369-1 REV. A.SLDPRT

RELEASED
2016-01-21
ECN 16510

APPROVED

A NEW ISSUE		RF	15.12.03
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. A
MFG. APPR.	JFS	D5369	SHEET 1 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	CABLE GUARD	NTS
DATE	15.12.03	COPYRIGHT © 2016 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS COVENANT THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	



DART AEROSPACE LTD		Work Order:	163583
Description: Cable Guard		Part Number:	D5369-2
Inspection Dwg: D5369	Rev: A	Page 1 of 1	

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.06	+0.020/-0.000	.060	✓		Vern Mic 68	
0.13 x 45°	+/-0.030 x +/-0.5°	.135 x 45°	✓		"	
1.44	+/-0.030	1.440	✓		"	
0.31	+/-0.030	.310	✓		"	
24°	+/-0.5°	24°	✓		C-Square	
50°	+/-0.5°	50°	✓		"	
0.54	+/-0.030	.530	✓		Vern Mic 68	
0.31	+/-0.030	.310	✓			
0.49	+/-0.030	.490	✓		"	
0.88	+/-0.030	.875	✓		"	
1.75	+/-0.030	1.750	✓		"	
Ø0.316	+0.006/-0.001	Ø.316	✓		"	
2.00	+/-0.030	1.995	✓		"	
1.63	+/-0.030	1.615	✓		"	
0.29	+/-0.030	.290	✓		"	
7.65	+/-0.030	7.635	✓		"	
8.03	+/-0.030	8.020	✓		"	
8.78	+/-0.030	8.770	✓		"	
9.26	+/-0.030	9.250	✓		M-type	
12.03	+/-0.030	12.020	✓		"	
12.78	+/-0.030	12.770	✓		"	
13.16	+/-0.030	13.150	✓		"	
20.71	+/-0.030	20.70	✓		"	
25.71	+/-0.030	25.70	✓		"	
43.71	+/-0.030	43.70	✓		"	
61.71	+/-0.030	61.70	✓		"	
65.66	+/-0.030	65.66	✓		"	
72.76	+/-0.030	72.75	✓		"	
73.00	+/-0.030	72.990	✓		"	
76.09	+/-0.030	76.08	✓		"	
76.92	+/-0.030	76.91	✓		"	
78.12	+/-0.030	78.11	✓		DAS	

Measured by: <i>CM</i>	Checked by: <i>45</i>	QC Inspector:
Date: 17/07/13	Date: 2017-7-13	Date:

Engineering Approval: (If necessary)	Date:
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Rev	Date	Change	Revised by	Approved
A	16.03.30	New Issue	KJ	<i>KA</i>

